

The Viennese contribution to venereology

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SUMMARY A history of venereology in Vienna from the first manifestations of the French disease in 1498 until the first half of the twentieth century is described. Notable events were the founding of the old Vienna School by van Swieten in the years after 1745, followed by the revival one hundred years later by von Hebra of the scientific basis for dermatovenereology. An account is given of teachers and discoverers of venereological importance after von Hebra and Sigmund to Arzt. The importance of Landsteiner's and Wagner von Jauregg's contributions finalise the historical account.

The founding of Vienna University School of Medicine.

The University of Vienna was the second university to be founded in the Holy Roman Empire, the first being Prague in 1348. Rudolf IV, der Stifter founded Vienna in 1365 as a *stadium generale*. The transactions of the medical faculty began to appear on 6 May 1399, and the first public dissection was on 12 February 1404. Lectures on surgery started in the early fifteenth century under Franz Emrich, and after 1555 they followed the style of those of the Italian universities.

In 1480, Vienna was still only a small city with 11 physicians, the fee for a single visit being 1 gold gulden, but at the beginning of the sixteenth century there were about 7000 students attending the university.

Venereal diseases were first recorded by Steber. He was Professor of Medicine, Rector Magnificus, about 1490 and from 1492 Decanus six times. He died in 1506 and was buried in the Stephanskirche. In 1498 he wrote an eight-page book on syphilis *A Malafranczos Morbo Gallorum Praeservatio Ac Cura* (Steber, 1498). The title page is illustrated by a well known woodcut, borrowed by Buret (1895) for the frontispiece of his book *Syphilis in the Middle Ages and in Modern Times*. It shows a couple with secondary syphilis. The woman is in bed while the physician in a pointed cap stands by with a urine flask in his hand performing urino-

scopy. By the side of the bed sits the man. A second physician or assistant, is treating him with ointment, possibly mercurial, which he is applying with a spatula. The book starts with a few commendatory verses by Hieronymus Balbi, the Venetian, also a professor at Vienna. Steber gives a differential diagnosis of syphilis, then he attacks charlatans—men who are not medically qualified who discuss the disease. Apart from the rash *bosën Blattern*, Steber does not mention many of the signs of syphilis and his idea of its causes is medieval; he gives an explanation from astrology for its appearance. Of course the celebrated picture of a syphilitic man (1496) attributed to Durer has a globe with astrological figures above it, indicating that this thinking was then much in vogue (Sudhoff, 1912). Steber mentioned mercury as a cure but seemed to have little confidence in it.

The old Vienna School of Medicine

The next great landmark in venereology in Vienna was the arrival of Gerard van Swieten. He was born in Leiden in 1700 of a Catholic family and studied there under Boerhaave, becoming his assistant. He became so popular a teacher that less able men became envious of him. After Boerhaave's death in 1738 an old law was resurrected and his lectures were ended on the grounds that a Catholic could not be an instructor. The result of this was that he published his lectures *Commentaria in Hermanni Boerhaave Aphorismos de Cognoscendis et Curandis Morbis* (van Swieten, 1742).

In 1744 the archduchess Maria Anna, sister of the Empress Maria Theresia of Austria, died from

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puerperal fever in Brussels; van Swieten was the only physician in attendance. Such was his eminence and diplomacy that the Empress asked him to be her personal physician and to reorganise Austrian medicine, then at a low ebb.

Thus he created the 'old Vienna School'. By an edict of 1749 all professional appointments were made by the Crown. Salaries were to be adequate, and final examinations were made much more rigorous instead of a document which merely stated that the student had attended a prescribed course. A Vienna graduate could practise anywhere in the Austrian Empire, while graduates from other Austrian universities could practise only in their home province; this immediately established the predominance of the Vienna School.

Van Swieten restored the royal library, instituted a botanical garden under the direction of Robert Laugier of Nancy, and reinvigorated the departments of anatomy and surgery, the former being taken up by Johann Ludwig Gasser of ganglion fame.

Theoretical medicine was revived by pupils of van Swieten, Anton Störck, and his successor H. J. N. von Crantz—the author of the noted *Materiae Medicae et Chirurgicae* (von Crantz, 1765).

Van Swieten introduced the tradition of Leiden of bedside teaching, assisted by another Dutchman Antonius de Haen (1704–76). The Vienna clinic was established at the Bürgerspital in 1753 being modelled closely on that of Leiden. De Haen started post-mortem examinations in Vienna and published an enormous text in seventeen volumes. He was also one of the first to use the clinical thermometer.

During this time, syphilitics were treated at the Spital zu St Marx and van Swieten stopped the indiscriminate use of semiannual ptyalisation. Maximilian Locher was placed in charge, and introduced mercury sublimate, taken in daily doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain in brandy—'liquor mercurii Swietenii'. This was not a new idea, corrosive sublimate had been recommended to van Swieten by Antonio-Nunez Ribeiro Sanchez (1699–1783) an exponent of the chronicity of venereal disease. Sanchez had learnt about corrosive sublimate dissolved in brandy while he was a medical officer to the Russian imperial army where apparently it was used in the treatment of syphilis in Siberia.

Van Swieten taught that no organ escaped the influence of the venereal poison, being a cause of 'gummy' tumours, exostoses, deep seated pains, apoplexy, epilepsy, blindness, deafness, and paralysis.

The results now that unnecessary treatment was

discontinued were so successful that indiscriminate treatment was also abolished by the medical authorities of the English, French, Austrian, and Swedish armies. Sir John Pringle (1707–82) introduced the practice in England.

Another Viennese about this time was Joseph Jakob von Plenck (1738–1807) who wrote several manuals on venereal disease and its treatment. He is better known for his classification of skin diseases *Doctrina de morbis cutaneis qua hi Morbi in Suas Classes, Genera et Species Rediguntur* (von Plenck, 1776) in which they are classified according to clinical appearance—macules, pustules, vesicles, bullae, papules, crusts, squamous conditions, callosities, cutaneous excrescences, cutaneous ulcers, dermal trauma, parasitic infections, diseases of nails and of the hair.

Max Neuberger (1921), who was later to be a refugee in England, quotes Wekhrin (1777) who gave a description of the conditions of syphilitics of those times—'The Spital zu St Marx is one of the sad monuments to human sorrow. In one part of the building the insane lie in chains. In another, there is a room with this inscription over the entrance "For women rendered unfortunate by love". These unlucky sacrifices to pleasure and carelessness are here either to be relieved of the pledge intrusted to them, or be healed of pleasure's poison. Here young physicians and wound surgeons come to study obstetrics and the treatment of venereal disease. One thing in particular, perhaps the most important of all is wanting in this establishment. It is not enough to treat the consequences of vice—one must also conceal them from the public gaze, for there are certain situations in life which are intolerable both to observer and the observed. At the Spital Zu St Marx not only is any prying person admitted to visit the puerperal and venereal wards whenever he wishes, but on certain days each year the doors are opened to the common rabble exposing the unfortunate women to the jests and derision of street urchins and prostitutes. Such an experience must cause them even more suffering than their bodily ailments'.

Luckily Maria Theresia's successor Josef II was an humanitarian and these intolerable conditions were stopped with the opening in 1784 of the new Allgemeines Krankenhaus, to which patients were moved from five hospitals including Spital Zu St Marx. Josef II also removed the prohibition on Jews being admitted to the University of Vienna. About this time the first Jew to qualify, Georg Josef Beer (1763–1821), an ophthalmologist, noted the condylomatous nodes on the border of the iris in chronic progressive syphilitic iritis (Beer, 1792).

The new Vienna School of Medicine

The new Vienna School of Medicine was based on the personalities and teachings of three leaders of the profession—Skoda (1805–81), Rokitansky (1804–78), and von Hebra (1816–80). Skoda was greatly influenced by the teachings of the Paris medical school, and brought a scientific basis to clinical medicine, insisting on an accurate diagnosis subsequently confirmed by autopsy. Rokitansky's influence on pathology was immense lasting until the present day. He enabled the scientific observation and recording of medicine to grow with vigour in Vienna, and provided a scientific framework for the development of dermatovenereology.

Ferdinand Ritter von Hebra was born in Brno in Moravia on 7 September 1816, qualifying in 1841. At that time skin diseases were neglected in Vienna. Patients suffering from mental diseases, syphilis, and skin diseases were all housed in an annexe to the Allgemeines Krankenhaus called the Kraetzestation, or scabies station. The more chronic conditions were all classified as scabies regardless of symptoms. There was no true understanding of these diseases or adequate forms of treatment.

In November 1841 Skoda appointed von Hebra to take charge of the scabies station. Von Hebra realised he was in a badly neglected field and soon demonstrated his excellence in clinical observation and deduction. Influenced by the scientific principles of Rokitansky and the classification of Alibert, he began to lecture to other physicians on the subject of skin diseases, at the same time investigating their aetiology and pathology. He was said to be straightforward, witty, and a practical lecturer. By October 1844 dermatology was recognised as a teaching subject for the first time. In that year also, von Hebra enunciated the relationship between the mite and skin changes in scabies, proving conclusively the cause of the disease. This led him to investigate eczema and from 1845 he attempted to classify skin diseases on the basis of pathological anatomy dividing the diseases into 12 categories (von Hebra, 1845).

In 1849 von Hebra became a professor. He wrote not only about eczema but on arsenic therapy in lichen planus, chronic urticaria, leprosy, vaccination, and Norwegian scabies. He produced two classic textbooks *Atlas of Skin Diseases* (von Hebra, 1856) and *On Diseases of the Skin* (von Hebra, 1866), translated into English by the New Sydenham Society. He was an originator of the water bed and a convinced advocate of mercury in the treatment of syphilis. Students flocked to him from all over Europe and the United States, and he enjoyed travelling especially to London and Paris.

Despite suffering from bronchiectasis he built up an enormous practice.

In 1849 the Clinic for Syphilis was formed and placed under Karl Sigmund von Ilanor (1810–83). He was an epidemiologist and a refuter of the unitarian views on the aetiology of venereal diseases, mapping out the course of primary and secondary syphilis and its recurrences. He fixed the incubation period for syphilis from between 14 and 28 days, but said it could be sometimes be as long as 42 days. He recognised the dangers of gonococcal infection for both sexes—a new idea at that time. He advocated the rational mercurial treatment for syphilis, favoured arsenic, and popularised Zittmann's decoction of sarsaparilla, aniseed, senna, and mercury sublimate which acted by diaphoresis, diuresis, and purgation. Sigmund's views were adopted in England especially by Sir Alfred Cooper.

Von Hebra's successor in dermatology was Moritz Kaposi (formerly Kohn) (1837–1902), his son-in-law, a popular if didactic teacher who elaborated and codified von Hebra's works. His book *Pathologie und Therapie der Hautkrankheiten* (Kaposi, 1880) is still of considerable importance. Apart from the eponymous sarcoma, he studied herpes zoster, sarcoid, and lichen planus.

After Sigmund, Isidor Neumann von Heilwart (1832–1906) became head of the syphilis clinic. He is remembered for defining the picture of pemphigus vegetans, differentiating it from the condylomata lata of syphilis. Through his efforts, dermatology was introduced as a compulsory subject in Vienna. He also wrote several textbooks on venereal diseases.

Henry Wile (1883) an American visitor vividly compares the teaching of Kaposi with that of Neumann. He mentions that Professor Kaposi has pretended to assume all the dictatorial power of his predecessor. . . . 'The method and manner of teaching is dogmatic in style: It sometimes savors of conceit. It is not long before the hearer becomes impressed with the idea that the good work is being continued only in Vienna, and that which is done outside of the beautiful capital is hardly worthy of honorable mention.' He mentions the frequent occurrence of scabies in the Schuster (shoemaker) and Schneider (tailoring) apprentices. Later he mentions a primary sore on the lip, mistaken for an epithelioma by the surgeons. Referring to Professor Neumann, in charge of the division of syphilis, Wile quotes, 'The method of teaching employed by Professor Neumann is peculiarly attractive and worthy of great merit on account of the particular attention that is paid to the matter of differential diagnosis'.

In 1904 Ernst Finger (1856–1939) now remembered for his work on gonorrhoea, succeeded Neumann;

Finger did not retire until 1927. Finger was born in Prague, the son of the Professor of Medicine at Lemberg (Lvov). He qualified in 1877 and became an assistant first to Sigmund, then to Hermann Zeissl. Finger wrote many papers and monographs on syphilis and gonorrhoea, collaborating with Weichselbaum (1845–1920), the discoverer of *Neisseria meningitidis*, and one of his leading pupils A. Ghon, celebrated for the eponymous focus. His work *Gonorrhoea and its Complications* (Finger, 1888) ran into several editions, an English edition being published in New York. He collaborated with Landsteiner on some experimental facets of *Treponema pallidum* in late syphilis.

Finger was conservative and not quick to introduce treatment with salvarsan. He directed attention to neurorecurrence and was opposed to 'therapia sterilisans magna'. He was interested in congenital syphilis, translating Fournier's book on the subject and fighting Matzenauer's theory which was the impossibility of paternal transmission of congenital syphilis. Rudolf Matzenauer (1869–1932) was another pupil of Neumann, becoming the head of the clinic at Graz in 1907. His views were correct but the opposition of Finger and Kassowitz was more celebrated. Under Finger's guidance 'Ulcus vulvae acutum' was described by Lipschütz (1912), and 'Balanitis erosive gangrenosa' by Müller and Scherber (1927). Finger was much more a venereologist than his predecessors, not being interested in general dermatology. He published over 180 papers and his textbook *Die Syphilis und die venerischen Krankheiten*, first published in 1886, had reached seven editions by 1913 (Finger, 1886). He was a good, sympathetic but critical teacher and many of his pupils became well known in the field of dermatology.

Finger was succeeded by Wilhelm Kerl (1880–1945) who was mainly interested in congenital syphilis and the influence of malaria therapy on the course of syphilis. Kerl had trained in Vienna under Gustav Riehl (1855–1943) and followed Finger as head of the university clinic for venereal and skin diseases in 1927, after a period as chief of dermatology at Innsbruck. Kerl was relieved of his position during the Nazi occupation of Austria but was called back in 1945; however he soon died from a heart attack.

Gustav Riehl (1855–1940) succeeded Kaposi in 1902 being interested in histopathology of the skin. In 1926 Riehl was followed by Leopold Arzt (1883–1955) an excellent clinician and histopathologist with great personal charm and an enormous practice. He collaborated with Zieler of Würzburg in editing *The Handbook on Skin and Venereal Diseases* (Arzt and Zieler, 1933). In 1937–38 he was

Rector of the University of Vienna but was forcibly retired by the Nazis in 1938. He was editor of *Wiener Klinische Wochenschrift*. After the second world war he tried to reconcile the dermatologists of countries which had formerly been enemies. He was interested in various aspects of skin cancer, Hodgkin's disease, mycosis fungoidis, and leukaemia and undertook some research on syphilis.

Adolf Jarisch (1850–1902), probably one of von Hebra's brightest pupils who should have succeeded Kaposi but for his early death, had been the chief of dermatology at Innsbruck. In 1895 he described the reaction now known as the Jarisch-Herxheimer reaction (Jarisch, 1895). 'The present findings are based on an observation which has surely been made by many syphilologists but which to my knowledge has heretofore not been appraised. I mean the observation of a reaction whereby in the first days of mercurial inunctions for syphilitic roseola there is an exaggeration of the clinical manifestations.' He thought that this reaction was connected with the more rapid involution of the lesions.

Venereology has been helped by scientists and clinicians of many different disciplines. One such was Karl Landsteiner (1868–1943) who in 1901 had described agglutination and the subsequent demonstration of four blood groups. After working with Donath (1870–1919) on the mechanism of paroxysmal cold haemoglobinuria, he co-operated in 1905–06 with Ernst Finger on infecting monkeys with syphilis. In 1907 with Rudolf Müller (1877–1934) he explained the principle underlying the Wassermann reaction (Landsteiner *et al.*, 1907).

No account of the Viennese contribution to venereology would be complete without mentioning Julius Wagner von Jauregg (1857–1940). In 1887 von Jauregg suggested that therapeutically induced fever might be useful in the treatment of psychotic patients (von Jauregg, 1887). Malaria and erysipelas were suggested, but the latter proved unsatisfactory. In 1912 satisfactory results for treating paresis with mercury-iodide combined with Koch's old tuberculin were published (von Jauregg, 1912). It was not until 1917, while looking after soldiers invalided from Macedonia, that the idea of malaria therapy was revived. A soldier with malaria had been accidentally admitted to one of von Jauregg's beds. Instead of being given quinine straight away, drops of his malarial blood were scarified into the skin of three paretics, the successful results being published in 1921—*Die Behandlung der progressiven Paralyse und Tabes* (von Jauregg, 1921). Malaria therapy became the main method of treating general paralysis of the insane until it was superseded by penicillin 30 years later.

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